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In the Supreme Court of the United States

ARISTOCRAT TECHNOLOGIES AUSTRALIA PTY LIMITED AND ARISTOCRAT TECHNOLOGIES, INC.,

Petitioners,

v.

INTERNATIONAL GAME TECHNOLOGY AND IGT,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

A "means-plus-function" patent claim is one expressed as a "means . . . for performing a specified function without the recital of structure . . . in support thereof, and such claim shall be construed to cover the corresponding structure . . . described in the specification . . . ." 35 U.S.C. § 112 ¶ 6. A patent "specification" must contain "a written description of the invention, . . . in such . . . terms as to enable any person skilled in the art . . . to make and use the same." 35 U.S.C. § 112 ¶ 1. In this case, petitioners' patent contains a means-plus-function claim and further discloses in the specification a computer as the corresponding "structure" to perform the function. The Federal Circuit held that petitioners' patent is invalid because the specification does not also disclose, as "structure," the algorithm the computer would use, even though a person skilled in the art could discern the appropriate algorithm.

The question presented is:

When a means-plus-function claim expresses a function and the patent specification further discloses a computer as the corresponding "structure" to perform the function, does Section 112 of the Patent Act require that the patent specification also disclose the algorithm used by the computer, if such algorithm would be within the knowledge of a person skilled in the art?

PARTIES TO THE PROCEEDING

The parties to the proceeding in the United States Court of Appeals for the Federal Circuit are the same as the parties to this proceeding: Petitioners Aristocrat Technologies Australia Pty Limited and Aristocrat Technologies, Inc. and Respondents International Game Technology and IGT.

RULE 29.6 STATEMENT

Aristocrat Leisure Limited holds ten percent or more of the stock of petitioners Aristocrat Technologies Australia Pty Limited and Aristocrat Technologies, Inc.

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PETITION FOR A WRIT OF CERTIORARI

Aristocrat Technologies Australia Pty Limited and Aristocrat Technologies, Inc. respectfully petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The decision of the court of appeals, available at *Aristocrat Techs. Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328 (Fed. Cir. 2008), is reprinted at Pet. App. 1a. The order of the court of appeals denying rehearing is reprinted at Pet. App. 40a. The court of appeals affirmed the decision of the United States District Court for the District of Nevada in *Aristocrat Techs. Australia Pty Ltd. v. International Game Technology*, No. 2:05-CV-00820 (D. Nev. April 20, 2007), which is unpublished but reprinted at Pet. App. 23a.

JURISDICTIONAL STATEMENT

The United States Court of Appeals for the Federal Circuit entered its judgment and opinion on March 28, 2008, *see* Pet. App. 1a-22a, and denied petitioners timely petition for rehearing on May 6, 2008, *see* Pet. App. 40a-41a. Chief Justice Roberts extended the time for petitioners to file a petition for certiorari to and including October 3, 2008. Application 08A44. This Court has jurisdiction over this matter pursuant to 28 U.S.C. § 1254(1).

STATUTES AND REGULATIONS

35 U.S.C. § 100, Definitions, provides in pertinent part:

> (b) The term process means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

35 U.S.C. § 101, Inventions patentable, provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 112, Specification, provides in pertinent part:

> [¶ 1] The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the

> best mode contemplated by the inventor of carrying out his invention.
>
> [¶ 2] The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
>
> *******
>
> [¶ 6] An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

STATEMENT OF THE CASE

1. Section 112 of the Patent Act, 35 U.S.C. § 112, requires that a patent contain a specification which includes a written description of the invention . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. *Id.* ¶ 1. The specification in turn must conclude with one or more claims particularly pointing out and distinctly claiming the subject matter of the invention. *Id.* ¶ 2. Thus, the written description of the invention in a patent s specification is distinct from the ensuing

"claims" at the conclusion of the specification, which operate to determine the boundaries of the patent. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (distinguishing patent specification from patent claims).

The Patent Act allows patent claims to be made with respect to tangible *things*. *See* 35 U.S.C. § 101 (identifying that which may be patented as any new and useful "machine, manufacture, or composition of matter"). Patent claims involving machines, manufactures, and compositions of matter "relate to *structural* entities and can be grouped as 'product' claims." Donald S. Chisum, 1 *Chisum on Patents* § 1.02, at 1-11 (2006) (emphasis added).

The Patent Act also allows patent claims to be made with respect to certain intangible *acts*. Such claims are "process" claims. *See* 35 U.S.C. § 101 (also identifying "process[es]" as patentable); *see also id.* § 100(b) (defining "process" as "process, art or method"). A process "'is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.'" *Diamond v. Diehr*, 450 U.S. 175, 183 (1981) (quoting *Cochrane v. Deener*, 94 U.S. 780, 787 (1877)); *see also* Donald S. Chisum, 1 *Chisum on Patents* § 1.03, at 1-109 ("A process is not a structural entity but rather an operation or series of steps leading to a useful result."). It consists of "doing something, and therefore has to be carried out or performed." Robert L. Harmon, *Patents and the Federal Circuit* 55 (8th ed. 2007).

Paragraph 6 of Section 112 provides that patent claims may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. 35 U.S.C. § 112 ¶ 6. This provision permits patent applicants to claim a function without reciting definite structure or acts to perform the function, so long as the patent specification adequately describes the corresponding structure or act that performs the claimed function to a person skilled in the art. *See Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 (1997). [U]nder this . . . provision, an applicant can describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used (*e.g.*, a means of connecting Part A to Part B, rather than a two-penny nail). *Id.*

Paragraph 6 carries over the long-standing distinction in patent law between product claims and process claims. A means-plus-function claim is a *product* claim that contains the word means but lacks sufficient *structure* within the body of the claim to perform the claimed function. In contrast, a step-plus-function claim is a *process* claim that contains the word step but lacks sufficient *acts* within the body of the claim to perform the claimed function. In the case of a product, either structure or material can serve as the means to perform the claimed function. In the case of a process, however, acts refer to the implementation of step[s] of the claimed function. Therefore, structure/means and

acts/steps in Section 112 are conceptually distinct, reflecting the difference between product claims and process claims. *See O.I. Corp. v. Tekmar Co. Inc.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997) (In this paragraph, structure and material go with means, acts go with steps.). This understanding is confirmed by a leading commentator writing shortly after the 1952 enactment of Paragraph 6:

> The last paragraph of section 112 relating to so-called functional claims is new. It provides that an element of a claim for a combination (and a combination may be not only a combination of mechanical elements, but also a combination of substances in a composition claim, or steps in a process claim) may be expressed as a means or step for performing a specified function, without the recital of structure, material or acts in support thereof.

P.J. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. (1954), *reprinted in* 75 J. Pat. & Trademark Off. Soc y 161, 186 (1993).

Thus, when dealing with means-plus-function claims, the operative language of Paragraph 6 is as follows:

> An element in a claim for a combination may be expressed as a *means* . . . for performing a specified function without the recital of

> *structure*, [or] material . . . in support thereof, and such claim shall be construed to cover the corresponding *structure*, [or] material . . . described in the specification and equivalents thereof.

35 U.S.C. § 112 ¶ 6 (emphasis added). Conversely, when dealing with a step-plus-function claim under Paragraph 6, the operative language is:

> An element in a claim for a combination may be expressed as a . . . *step* for performing a specified function without the recital of . . . *acts* in support thereof, and such claim shall be construed to cover the corresponding . . . *acts* described in the specification and equivalents thereof.

Id. (emphasis added).

2. This case involves a means-plus-function claim under 35 U.S.C. § 112 ¶ 6. Petitioner Aristocrat Technologies Australia Pty Limited owns U.S. Patent No. 6,093,102 (102 patent) and Petitioner Aristocrat Technologies, Inc. is the exclusive licensee of the 102 patent in the United States. The 102 patent is an improvement to slot machines.

The relevant means-plus-function claim of the 102 patent, Claim 1, identifies three functions performed by unspecified game control means : (1) controlling images displayed on the display means;

(2) paying a prize when a predetermined combination of symbols matches the symbol positions selected by the player; and (3) defining a set of predetermined arrangements for a current game comprising each possible combination of the selected symbol positions. Pet. App. 6a, 49a.

The 102 patent specification provides that it is to be understood that it is within the capabilities of the non-inventive worker in the art to introduce the methodology on any standard microprocessor base[d] gaming machine by means of appropriate programming. Pet. App. 47a-48a. In other words, an appropriately programmed standard microprocessor-based (*i.e.*, computer-based) gaming machine is the corresponding means to perform the functions described in Claim 1. The programming of the computer is not spelled out by the specification, but is within the abilities of persons skilled in the art to discern, as the Federal Circuit determined in this case. *See* Pet. App. 18a.

3. Petitioners sued respondents International Game Technology and IGT in the United States District Court for the District of Nevada, alleging infringement of the 102 patent. Respondents moved for summary judgment, on the ground that Claim 1 of the 102 patent is invalid as indefinite.

The district court granted respondents motion for summary judgment, finding Claim 1 invalid as indefinite. Specifically, the district court held that Claim 1 is indefinite because the patent specification failed to disclose the algorithm to be used by the computer to perform the function. The district court

stated that [i]n a means-plus-function claim in which the disclosed structure is a computer or microprocessor programmed to carry out an algorithm, a corresponding structure must be a specific algorithm disclosed in the specification, rather than merely an algorithm executed by a computer. Pet. App. 33a (citing *Harris Corp. v. Ericsson*, 417 F.3d 1241, 1253 (Fed. Cir. 2005)).[1] Invalidation of Claim 1 was necessarily fatal to petitioners infringement case, Pet. App. 37a, and the district court entered judgment in favor of respondents. Pet. App. 39a.

4. Petitioners appealed to the Federal Circuit. The same panel of that court heard argument in this case, immediately after hearing argument in another patent infringement case brought by petitioners (*Aristocrat Techs. Australia Pty Ltd. v. Multimedia Games, Inc.*, No. 2007-1375 (Fed. Cir. Feb. 22, 2008)) involving the same substantive legal issue: whether Section 112 ¶ 6 requires a patent containing a means-plus-function claim to disclose the algorithm

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[1] The district court also granted summary judgment in favor of respondents on the alternative ground that Claim 1 of the 102 patent is invalid as indefinite because the patent failed to link the structure identified in the specification (the computer) to the means-plus-function claim. *See* Pet. App. 35a-37a. The Federal Circuit s decision did not address this alternative ground for the district court s decision.

used to program a computer to perform the claimed function.[2]

On February 22, 2008, the Federal Circuit panel that heard argument in both *Multimedia* and this case issued a nonprecedential decision in *Multimedia*. The decision, authored by Judge Lourie, held that Section 112 does *not* require a patent containing a means-plus-function claim to disclose the algorithm used to program a computer to perform the claimed function, so long as a person skilled in the art could ascertain the correct algorithm to use with the computer:

> Multimedia seemingly urges that *WMS Gaming, Inc. v. International Game Technology*, 184 F.3d 1339 (Fed. Cir. 1999), stands for the rule that when a general purpose microprocessor or computer is the structure corresponding to a recited function, a specific algorithm for performing that function must be disclosed in order to avoid indefiniteness, and, by extension, a specific random number algorithm must be disclosed here. *WMS Gaming, however, does not require that a particular algorithm be*

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[2] Although the substantive issue was essentially identical, the two appeals originated in different district courts and involved different patents and different defendants.

identified if the selection of the algorithm or group of algorithms needed to perform the function in question would be readily apparent to a person of skill in the art. For example, in *Dossel*, we found that the claim limitations "means for reconstructing the current distributions of the volume elements which are situated on said surfaces on the basis of said measured values" and "reconstruction means for determining the current distributions at said predetermined volume locations from said stored values" were not indefinite because, *"[w]hile the written description d[id] not disclose exactly what mathematical algorithm w[ould] be used to compute the end result, it d[id] state that 'known algorithms' c[ould] be used to solve standard equations which are known in the art."* 115 F.3d at 946.

Similarly, in *Medical Instrumentation*, although we concluded that a box labeled "Image Format Conversion" in one of the patent figures could not "serve to clearly link software as a corresponding structure for the function of converting the images into a selected format," we also concluded that "*there would be no need for a disclosure of the specific program code*

> *if software were linked to the converting function and one skilled in the art would know the kind of program to use.*" 344 F.3d at 1213-14. Thus, if the district court concludes on remand that a controller is synonymous with a microprocessor and that a person of skill in the art would readily appreciate the type of algorithm necessary to perform the pseudo-random number generating function, the primary focus for purposes of construing "random number selection means" and the final three claim terms in dispute, "means for storing," "means for sequentially selecting," and "means for displaying," *will be whether algorithms needed to perform those functions are readily apparent to a person of skill in the art or are disclosed in the specification.*

Pet. App. 63a-64a. (emphasis added and alterations in original).

Just over one month after the panel issued its nonprecedential decision in *Multimedia*, the same panel issued its precedential decision in this case, authored by Judge Bryson. Paradoxically, the panel's holding in this case is the exact opposite of the panel's *Multimedia* holding. In this case, the panel held that patents that claim functions implemented by a computer must "at least disclose the algorithm that transforms the general purpose microprocessor to a 'special purpose computer

programmed to perform the disclosed algorithm.'" Pet. App. 22a (quoting *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). Thus, the court of appeals agreed with the district court that Claim 1 of the '102 patent was invalid as indefinite, because the '102 patent failed to disclose the applicable algorithm that would be used to program the computer. This was so, the court of appeals held, notwithstanding that "examples given in the '102 patent might enable one of ordinary skill to make and use the invention." Pet. App. 18a.

Petitioners petitioned for both panel rehearing and rehearing en banc, noting in particular that the panel decision in this case was in direct conflict with the same panel's decision in *Multimedia*, which was argued in the same argument session with this case. The Federal Circuit denied the petition for rehearing without comment. *See* Pet. App. 40a-41a.

REASONS FOR GRANTING THE PETITION

In recent years, this Court has taken a renewed interest in patent cases arising out of the Federal Circuit. In the past three years, for instance, this Court has reviewed the merits of five such cases, reversing in every one. *See eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118 (2007); *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007); *Microsoft Corp. v. AT&T Corp.*, 127 S. Ct. 1746 (2007); *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008). In three such cases, *eBay Inc.*, *KSR International*, and *Microsoft Corp.*, this Court noted that the Federal Circuit had

interpreted the Patent Act in a way that was contrary to the language of the statute. *See eBay Inc.*, 547 U.S. at 391-92; *KSR Int'l*, 127 S. Ct. at 1735; *Microsoft Corp.*, 127 S. Ct. at 1756.

This case is no different. Here, the Federal Circuit held that the '102 patent was invalid because it failed to disclose the algorithm used to program the computer. But such a disclosure is not required under Section 112.

First, Section 112 only requires the disclosure of "structure" in means-plus-function claims, and an algorithm is not "structure." Although an algorithm can be an "act" for purposes of a "step-plus-function" claim, the claim at issue in this case is a "means-plus-function" claim, which only requires the disclosure of "*structure*." By its requirement of an algorithm, the Federal Circuit has imported a condition into the Patent Act that does not exist, a tendency of lower courts that this Court has frequently corrected. *See Diehr*, 450 U.S. at 182 ("[I]n dealing with the patent laws, we have more than once cautioned that courts should not read into the patent laws limitations and conditions which the legislature has not expressed.") (citation and internal quotation marks omitted).

Second, even if an algorithm is otherwise "structure," a means-plus-function claim is permissible, so long as the specification discloses *sufficient* structure that a person skilled in the art could perform the function. In this case, the Federal Circuit recognized that a person skilled in the art could devise the appropriate algorithm, Pet. App.

18a, but still deemed the patent invalid. A result consistent with *Multimedia* would have been one that held that disclosure of a computer to perform the expressed function was sufficient structure, if a person skilled in the art would know how to implement the function.

Not surprisingly, a jurisprudence untethered to the language of the statute yields inconsistent results. There is no better example than the decision in *Multimedia*. The panel that heard argument in this case also heard argument in *Multimedia*, but the panel issued two opinions that are in direct conflict. In *Multimedia*, the patent claimed a function and disclosed a "controller" to perform the function. The Federal Circuit held that the patent is valid if a person skilled in the art could discern that the "controller" was a computer and would be capable of implementing the appropriate algorithm to program the "controller." Pet. App. 63a-64a. Here, however, the court reached the opposite conclusion, deeming the '102 patent invalid because it did not disclose an algorithm, Pet. App. 22a, even though a person skilled in the art could implement the relevant algorithm. Pet. App. 18a.

The question presented is recurring and involves an important area of patent law—means-plus-function claims—plagued by doctrinal confusion. If the Federal Circuit's decision remains in effect, existing patents containing a means-plus-function claim implemented by a computer, but that do not disclose an algorithm, are at risk of being declared invalid, even though a person skilled in the art could implement the applicable algorithm, and thus be

able to "make and use" the invention. 35 U.S.C. 112 ¶ 1.

I. The Federal Circuit's Construction of Section 112 Is Erroneous

In this case, the Federal Circuit held that the '102 patent was invalid as indefinite because it did not disclose the algorithm used to program the disclosed standard microprocessor-based gaming machine, the "means" for performing the function expressed in the patent's means-plus-function claim. This holding was erroneous for two reasons. First, Section 112 requires the disclosure of "structure," and an algorithm is not "structure" within the meaning of the statute. Second, even if an algorithm is "structure," the court of appeals erred when it held that the disclosure in the '102 patent was insufficient, even though the patent disclosed sufficient structure for one "skilled in the art" to "make and use" the invention, as required by Section 112.

A. An Algorithm Is Not "Structure"

The Federal Circuit decision in this case requiring disclosure of an algorithm as corresponding "structure" in a means-plus-function claim is erroneous because an "algorithm" is not "structure." This conclusion follows from both the ordinary meaning of the word "structure," as well as the statutory scheme, which expressly distinguishes between tangible *things* and intangible *acts*.

The ordinary meaning of "structure" is "the arrangement or interrelation of all the parts of a

whole," the "manner of organization," or "form." Webster's New Twentieth Century Dictionary 1806 (2d ed. 1975).

An "algorithm," by contrast, is "a step-by-step procedure for solving a problem or accomplishing some end especially by a computer." Merriam-Webster Online Dictionary (2008), www.merriam-webster.com/dictionary.algorithm (last visited Sept. 16, 2008). An algorithm is nothing more than a series of "acts" in a process. *See Diehr*, 450 U.S. at 186, 187 (defining algorithm as "procedure for solving a given type of mathematical problem" and observing that an algorithm is one of several "steps in [a] claimed process"); *see also* Ron White, *How Computers Work* 93 (9th ed. 2008) (defining an algorithm as "[a] procedure, rule, or formula for solving a problem. A computer program is essentially an elaborate algorithm that goes through a series of steps to arrive at a specific outcome.").

The difference between "structure" and "algorithm," therefore, is significant indeed. It is the difference between a tangible thing and an intangible act the difference between a noun and a verb.

The statutory context supports this distinction between structure and algorithm. Paragraph 6 specifically differentiates between "structure" on the one hand and "acts" on the other. If the term "algorithm," which is a series of "acts" in a process, falls within the meaning of the term "structure," then the word "acts" in Paragraph 6 of Section 112 is either redundant or irrelevant. As this Court has

explained, "we should not construe the statute in a manner that is strained and, at the same time, would render a statutory term superfluous." *Dole Food Co. v. Patrickson,* 538 U.S. 468, 476-77 (2003). However, reading "structure" to include an "algorithm" would do just that, by rendering the word "acts" superfluous.

Paragraph 6 distinguishes between tangible "structure" and intangible "acts" precisely because that distinction is a foundational principle of patent law, as reflected in Section 101 of the Patent Act. Section 101 allows for patent claims to be made as either tangible things, or certain intangible acts, referred to as "process[es]." *See* 35 U.S.C. § 101 (providing that patent claims may be made as to "any new and useful process, machine, manufacture, or composition of matter"). This Court long ago recognized that distinction:

> The term machine includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result. But where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations, are called processes. A new process is usually the result of discovery; a machine, of invention.

Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854).

By holding that an "algorithm" is "structure" within the meaning of the statute, the Federal Circuit fails to distinguish between the two different kinds of claims spelled out in Paragraph 6 of Section 112. The claim at issue in this case is a "means-plus-function" claim. It is a "*product*" claim that expresses a means to perform a function, with corresponding *structure* to perform the function disclosed in the specification. A very different kind of claim is a "step-plus-function" claim. That claim is a "*process*" claim that expresses steps to perform a function, with corresponding *acts* to perform the function disclosed in the specification. *See Tekmar*, 115 F.3d at 1582-1583 ("The word 'means' clearly refers to the generic description of an apparatus element, and the implementation of such a concept is obviously by structure or material. We interpret the term 'steps' to refer to the generic description of elements of a process, and the term 'acts' to refer to the implementation of such steps.").

Nonetheless, the Federal Circuit decision here conflated the two concepts by requiring a computer-implemented means-plus-function invention to disclose an intangible algorithm. Intangible algorithms are "acts" within the meaning of Section 112 because an algorithm is a "process," as the Federal Circuit's cases recognize. *See In re Durden*, 763 F.2d 1406, 1410 (Fed. Cir. 1985) (defining a process as a "manipulation according to an algorithm"). A "means-plus-function" claim, on the other hand, does not require the disclosure of "acts"

in a process.[3] It requires the disclosure of "structure" or "material." All that is required is that it identify, to a person of skill in the art, a physical structure that corresponds to the claimed function. The Federal Circuit erred in treating a means-plus-function product claim as if it were a process claim and requiring the disclosure of an intangible algorithm. *See Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1374 (Fed. Cir. 2008) (noting that while a single patent may support both product and process claims, "no single claim may cover more than one subject matter class").

In sum, because an intangible algorithm can never be "structure" within the meaning of 35 U.S.C. §112 ¶ 6, the '102 patent cannot be invalidated as

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[3] The flaw in the analysis by the Federal Circuit is clear when considered in the context of mechanical technology. Suppose a patent claimed an improved "means for plowing a field" and the patent specification disclosed a particular improved plow as the structure corresponding to the means clause. If the Federal Circuit's decision in this case were applied to this hypothetical plow patent, the patent would be indefinite because it did not disclose an algorithm for operating a standard plow, even though plowing techniques have been known in the art for millennia. However, had the patent contained a high-level flow chart indicating (1) start at the right corner of the field; (2) activate plow lever to lower plow blade into soil; (3) continue in a straight direction to the border of the field; (4) activate plow lever to lift plow blade; (5) turn around; and (6) repeat steps (2)-(5), then the patent presumably would be upheld as definite.

indefinite for failing to disclose the algorithm in the specification.

B. Even If an Algorithm Constitutes "Structure," a Particular Algorithm Need Not Be Identified If the Algorithm Is Apparent to a Person Skilled in the Art

To the extent that an algorithm can otherwise constitute "structure," the Federal Circuit erred because Section 112 does not require disclosure of all *details* of the corresponding structure for means-plus-function claims. Instead, the statute's test for sufficiency of the disclosure of structure is whether "any person skilled in the art to which it pertains . . . [is able] to make and use the same." 35 U.S.C. § 112 ¶ 1. *See Atmel Corp. v. Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed. Cir. 1999) ("All one needs to do in order to obtain the benefit of that claiming device [Section 112 ¶ 6] is to recite *some* structure corresponding to the means in the specification, as the statute states, so that one [skilled in the art] can readily ascertain what the claim means and comply with the particularity requirement of ¶ 2. The requirement of specific structure in § 112 ¶ 6, thus does not raise the specter of an unending disclosure. . . .") (emphasis added); *see also id.* at 1379 ("As it is well established that claims are to be construed in view of the understanding of one skilled in the art, . . . *the closely related issue concerning whether sufficient structure has in fact been disclosed to support a means-plus-function limitation should be analyzed under the same standard.*") (emphasis added); *Creo Prods., Inc. v. Presstek, Inc.*, 305 F.3d

1337, 1347 (Fed. Cir. 2002) ("Under our case law interpreting § 112, ¶ 6, knowledge of one skilled in the art can be called upon to flesh out a particular structural reference in the specification for the purpose of satisfying the statutory requirement of definiteness."); *In re Dossel*, 115 F.3d 942, 946 (Fed. Cir. 1997) (holding that the claimed function was not invalid as indefinite because the patent specification described a computer that would compute by mathematical operations, and stating that it was unnecessary to disclose algorithms that the computer would use because those algorithms were known in the art).

Guidance from the United States Patent and Trademark Office supports the conclusion that the determination of whether "structure" disclosed in the specification is sufficient turns entirely on whether a person skilled in the art could make use of the structure:

> [T]he written description does not have to explicitly describe the structure (or material or acts) corresponding to a means-(or step-) plus-function limitation to particularly point out and distinctly claim the invention as required by 35 U.S.C. 112, ¶ 2. *Rather, disclosure of structure corresponding to a means-plus-function limitation may be implicit in the written description if it would have been clear to those skilled in the art what structure must perform*

> *the function recited in the means-plus-function limitation.*

Supplemental Examination Guidelines for Determining the Applicability of 35 U.S.C. 112 ¶ 6, 65 Fed. Reg. 38,510, 38,514 (June 21, 2000) (emphasis added).

Here, the court of appeals acknowledged that the '102 patent disclosed sufficient structure (a computer) to permit a skilled artisan to make and use the invention, stating that "the examples given in the '102 patent might enable one of ordinary skilled to make and use the invention." Pet. App. 18a. Therefore, the '102 patent specification provided sufficient corresponding structure for the means-plus-function term in Claim 1, as required by Paragraph 6, without disclosure of the applicable algorithm.

That the Federal Circuit decision is untethered to the statute is confirmed by the opinion's final qualifying paragraph, which cautions that "a listing or source code or a highly detailed description of the algorithm" is unnecessary, so long as an algorithm is disclosed that "transforms the general purpose microprocessor to a 'special purpose computer programmed to perform the disclosed algorithm.'" Pet. App. 22a (citing *WMS Gaming*, 184 F.3d at 1349). Nothing in the text of Section 112 makes such a distinction; instead, under Paragraph 1, the structure is sufficient so long as a person skilled in the art can make and use the claimed invention. Having found that the "skilled in the art" provision was satisfied here, the court of appeals could not

invalidate the '102 patent without excising that provision from the statute.

II. The Federal Circuit's Means-Plus-Function Jurisprudence Is in Disarray

The Federal Circuit's decision in this case is not only in conflict with the Patent Act, but it is also in direct conflict with earlier decisions of that court. In *Atmel,* 198 F.3d at 1382, *Dossel*, 115 F.3d at 946, and *Presstek*, 305 F.3d at 1347, the Federal Circuit held that the test for sufficiency of disclosure of "structure" for means-plus-function claims is whether one skilled in the art can make and use the invention. The conflict with *Dossel* is particularly pronounced because, like this case, it involved a computer as the structure corresponding to the claimed function. The Federal Circuit held in *Dossel* that the specification need *not* disclose the computer's algorithm, provided that the algorithm was apparent to one skilled in the art. *See Dossel*, 115 F.3d at 946 ("While the written description does not disclose exactly what mathematical algorithm will be used to compute the end result, it does state that 'known algorithms' can be used to solve standard equations which are known in the art."); *see also Intel Corp. v. Via Technologies, Inc.*, 319 F.3d 1357, 1366-67 (Fed. Cir. 2004) (following *Dossel* and holding that the means-plus-function claim was not indefinite because the circuitry of a computer chip, the corresponding structure, would be known to one skilled in the art). Of course, the panel's decision in this case also directly conflicts with its own decision in *Multimedia* a case specifically holding that disclosure of an algorithm is not

required under the language of Section 112 for a means-plus-function claim.

The Federal Circuit's means-plus-function jurisprudence is in disarray, and, to date, that Court has been unwilling and unable to add clarity to this important area of law. Scholarly commentators have frequently despaired of the confusion in the Federal Circuit's means-plus-function jurisprudence. *See, e.g.*, Lawrence Kass, Comment, *Computer Software Patentability and the Role of Means-Plus-Function Format in Computer Software Claims*, 15 Pace L. Rev. 787, 850 (1995) ("The 35 U.S.C. § 112, paragraph 6 mandate to construe means-plus-function claims to cover structures in the specification . . . has bred confusion and controversy, particularly with regard to computer program and mathematical algorithm inventions."); Mark Janis, *Who's Afraid of Functional Claims? Reforming the Patent Law's §112, ¶ 6 Jurisprudence*, 15 Santa Clara Computer & High Tech. L.J. 231, 234 (1997) ("The need for reform in §112, ¶ 6 jurisprudence is especially acute for several reasons."); Yoncha Lynn Kundupoglu, *The Law of Means-Plus-Function Language*, 28 AIPLA Q.J. 39, 79 (2000) ("The anomalies in cases grappling with means-plus-function limitations have done little to promote uniform and predictable claim interpretation. Therefore, the safest course for patentees is to avoid means-plus function language to the greatest extent possible."); Jeffrey N. Costakos and Walter E. Zimmerman, *Do Your Means Claims Mean What You Meant?*, 1 Marq. Intell. Prop. L. Rev. 109, 109 (1997) ("It is fair to say that no single provision of the Patent Act is capable of causing more confusion in

the drafting of claims, during prosecution, and during litigation than the fifty-three words of the sixth paragraph of 35 U.S.C. § 112."). Judge Plager of the Federal Circuit has admitted as much. *See Dawn Equip. Co. v. Ky. Farms, Inc.*, 140 F.3d 1009, 1018 (Fed. Cir. 1998) (Plager, J., concurring) (stating that the law of means-plus-function claims is "confused and confusing").

Indeed, the confusion in the Federal Circuit's means-plus-function jurisprudence is so rampant that a recent commentator goes so far as to suggest that "if the status quo persists, then patentees will be better off without Paragraph 6 altogether and Congress should abolish it." Nathaniel V. Riley, *The Crossroads of Patentability & Validity: Why Resolving Congressional Intent Will Not Fix Functional Claims*, 7 J. Marshall Rev. Intell. Prop. L. 218, 244 (2007). Another commentator concurs with this striking indictment of the Federal Circuit's treatment of means-plus-function patents:

> Ironically, although Congress enacted 35 U.S.C. § 112, ¶ 6 in 1952 with the intent of bringing certainty and flexibility to the law of means-plus-function claims, the only way it can now bring about the certainty and flexibility it originally sought is by completely eliminating the provision. It is unfortunate that [the Federal Circuit's] case law has turned a useful, balanced, and long-standing statutory infringement test into a burden on the patent system. This

> calls for congressional intervention. ....[I]t may be best to simply strike 35 U.S.C. § 112, ¶ 6 altogether and close a rather dark chapter in the Federal Circuit's history.

Cyrill P. Rigamonti, *Conflicting Theories Of Equivalence: 35 U.S.C. § 112, ¶ 6 In The Supreme Court And The Federal Circuit*, 40 IDEA 163, 194 (2000).

The frequent scholarly criticism of the Federal Circuit's means-plus-function jurisprudence is only confirmed by the same Federal Circuit panel's rendition of irreconcilably conflicting decisions in this case and *Multimedia*. The panel's disparate treatment of this case and *Multimedia* underscores the observations of yet another commentator:

> Secondary authorities tend to agree that the [Federal Circuit'] law in this area [means-plus-function claims] is poor. *They complain that legal rules apply to close cases unpredictably and often lead to results that are substantively wrong.* Even a brief perusal of the cases confirms their criticisms are largely justified.

R. Carl Moy, *Moy's Walker on Patents* § 4:90 (2006) (emphasis added).

When the same panel of the Federal Circuit is unable to consistently interpret Paragraph 6 of Section 112, and when the *en banc* Federal Circuit

will not step in to eliminate the confusion, this Court's intervention is necessary.

III. The Question Presented Is Recurring and Important

Whether a means-plus-function claim with a computer as corresponding structure must disclose the relevant algorithm is a question that district courts have grappled with for years. *See* R. Trevor Carter, Practising Law Institute, *Ramifications of Recent Decisions on Business Method and Software Patents*, 899 PLI/Pat 813, 822-28 (2007) (surveying eleven recent district court decisions involving the sufficiency of "structure" in means-plus-function patent claims involving computers). Given the disarray in the Federal Circuit's caselaw, district courts have reached contrary conclusions. Some district courts have invalidated patents for failure to disclose algorithms. *See, e.g., Gobeli Research, Ltd. v. Apple Computer Inc.*, 384 F. Supp. 2d 1016, 1022-23 (E.D. Tex. 2005) (holding means-plus-function claim as indefinite for failure to disclose algorithm as corresponding structure). Others have rejected indefiniteness attacks on the ground that an algorithm need not be disclosed. *See, e.g., Civix-DDI, LLC v. Microsoft Corp.*, 84 F. Supp. 2d 1132, 1147 (D. Colo. 2000) (holding means-plus-function claim did not fail for indefiniteness although the algorithm was not disclosed).

More recently, in the six months since the Federal Circuit decided this case, its decision has been applied by a different panel of that court, as well as by three district courts, to invalidate means-

plus-function patents because of the failure to disclose algorithms in patent specifications. *See, e.g., Finisar Corp. v. The DirecTV Group, Inc.*, 523 F.3d 1323, 1340-41 (Fed. Cir. 2008) (following *Aristocrat* and holding that means-plus-function claims that failed to disclose a computer algorithm were invalid as indefinite);[4] *Hochstein v. Microsoft Corp.*, No. 04-CV-73071, 2008 WL 4104332, at *8-10 (E.D. Mich. Sept. 2, 2008) (following *Aristocrat* and *Finisar* and declaring computer-implemented means-plus-function claim invalid as indefinite because it failed to disclose an algorithm); *CBT Flint Partners, LLC v. Return Path, Inc.*, No. 07-CV-1822, 2008 U.S Dist. LEXIS 53674, at *22-24 (N.D. Ga. July 10, 2008) (holding that a means-plus-function claim was indefinite because it failed to disclose the algorithm used to program the computer to perform the functions in question, following *Aristocrat*); *Alcatel USA Res. Inc. v. Microsoft Corp.*, No. 06-CV-500, 2008 U.S. Dist. LEXIS 49615, at *48-49 (E.D. Tex. June 27, 2008) (holding that a means-plus-function claim involving a "set-up program module" executed on a processor was indefinite because it did not disclose "sufficient algorithmic structure," following *Aristocrat*).

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[4] Finisar Corporation, whose patent containing means-plus-function claims was declared invalid in *Finisar*, filed a petition for certiorari concurrent with Aristocrat's filing of this petition and raises the same question presented. Finisar requests that this Court grant Aristocrat's petition, and hold Finisar's petition pending disposition of this case on the merits. *Finisar Corp. v. DirecTV Group, Inc.*, No. 08-___ (Oct. 3, 2008).

More broadly, means-plus-function issues frequently arise in patent litigation. Between 1983 and 1997, the Federal Circuit decided over one hundred cases involving means-plus-function issues. *See* William F. Lee and Eugene M. Paige, *Means Plus and Step Plus Function Claims: Do We Only Know Them When We See Them?*, 80 J. Pat. & Trademark Off. Soc'y 251, 251 n.1 (1998). Given the increasing frequency with which means-plus-function issues arise in patent litigation, "means-plus-function claims are thus important as never before." *Id.*; *see also* Rudolph P. Hoffman, Jr. & Edward P. Heller, III, *The Rosetta Stone for the Doctrines of Means-Plus-Function Patent Claims*, 23 Rutgers Computer & Tech. L.J. 227, 232 (1997) (noting that the interpretation of Paragraph 6 of Section 112 has "serious and often dispositive consequences" in patent litigation).

IV. The Federal Circuit Decision Puts Existing Patents at Risk and Will Increase the Cost of Applying for and Prosecuting Future Patents

The Federal Circuit's holding in this matter disrupts the settled expectations of current holders of U.S. means-plus-function claims implemented by computers. *Cf. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002) (noting that "courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community"). These patent holders are at significant risk of losing their patents for failure to disclose the underlying algorithm, where the statute contains no such

requirement. The Federal Circuit's decision effectively renders those patents invalid, despite having patent applications that were drafted in compliance with, and in reliance upon, the plain language of the Patent Act, the Federal Circuit's cases prior to this one, and the guidance of the Patent and Trademark Office.

Finally, the rule outlined by the Federal Circuit will also serve to increase the cost and effort needed to submit patent applications, by adding an unnecessary layer of complexity to the patent application and prosecution process. Patent applicants will have to expend significant energy and expense to comply with the requirement to disclose the underlying algorithm for inventions involving means-plus-function claims implemented by computers, even in instances such as this case where persons of skill in the art know how to implement the invention using the computer disclosed. This exaltation of form over substance is contrary to common sense and will cause the length of patent applications to increase substantially to disclose that which is known to a person of skill and will thereby increase the cost of preparing and prosecuting the applications.

CONCLUSION

For the reasons provided above, the Court should grant the petition for a writ of certiorari.

Respectfully submitted,

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